

# ZOOLOG

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Editor — Dieter H. Schwanke

Reprints of articles available on request

### *Annual Meeting*

*On May 28th, the annual meeting of the Zoological Society of Manitoba will be held at Vasa Lund. Planned is a social evening with dinner.*

**The editor of  
Zoolog will gladly  
accept applications  
for membership  
to the Zoological  
Society of Manitoba.**

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# President's Message

Under the stimulus of the article by Desmond Morris, which appeared in Life Magazine several weeks ago, has emerged a lot of dialogue on how we go about keeping animals happy in the zoo environment. While this, without question, is the most important single concern in zoo management, we should not forget that it is people who create zoos and, therefore, some recognition should be given to the needs of people also.

With the anticipation of spring and summer, we will soon find large numbers of people visiting Assiniboine Park and the zoo area and before long the annual spring clean-up will be underway, together with the annual task of flower bed planting and the inevitable sounds of new construction, that are not altogether desirable but necessary in a growing zoological park. Such disruptions to the pleasure of people visiting the zoo should, of course, be kept to a very minimum because it is not for these sights and sounds that the visit to the park has been undertaken.

People today, it seems, must be provided with miniature trains, hot dogs and popcorn. With the tremendous crowds of people that we expect on almost any weekend in the spring and summer, it is inevitable that the inner man be satisfied. Is it too much to ask then that the dispensing of these refreshments take place from buildings and kiosks which suit the general surroundings of the zoo? It is undesirable, I am sure, that we have large signs advertising the nature of the product being dispensed. We must do what we can to keep the litter down to a minimum, to make certain that buildings architecturally fit into their surroundings and, finally, that the services which are obviously necessary to such buildings are unobtrusively carried out with the minimum of disruption to the tranquility of our fine park.

**George Heffelfinger**

## On Membership

From the February newsletter of the citizen's organization supporting the Kansas City Zoo, called "Friends of the Zoo":

"A friend told me that the other day he was downtown in a shoe store preparing to cash a personal check. When the salesman asked for identification, the Friend pulled out the first card in his wallet which happened to be his F.O.Z. membership card. As he was reaching for more substantial identification, the salesman glanced at the membership card and said, 'Ah, you're a Friend of the Zoo. This will be adequate identification.' Have we finally arrived?"

**Did you get a new member for the Zoological Society of Manitoba lately?**



**Hartmann's Mountain Zebra**

# Our Zoo

## Animal

### Collection (9)

Gunter Voss, Dr. rer. nat.

What have Addax, Goitred Gazelles and Hartmann's Mountain Zebras in common? Not much taxonomically, geographically, genetically, not much in size and shape either. Yet they lend themselves very well to a reflection on noble Zoo targets.

I am sorry, because I omitted to introduce the partners. Addax, *Addax nasomaculatus* (Blainville, 1816), a very beautiful North African antelope. A desert animal in the strictest sense of the term, a large mammal which can exist without drinking at all. Young specimens are predominantly white, older ones sandy coloured. Both sexes have spirally twisted horns. The hoofs are broad for travelling on sand. The original range of the Addax extended from Senegambia, Rio de Oro, Algerian Sahara, Southern Tunisia south to approximately 15 degrees north, and east to the Sudan and Egypt. No subspecies are recognized.

Persian Goitred Gazelle, *Gazella subgutturosa subgutturosa* (Güldenstaedt, 1780). A fascinating Asiatic antelope, intermediate between the true gazelles, genus *Gazella*,

of which both sexes are equipped with horns, and the goat-gazelles, genus *Procapra*, with hornless females. Female Goitred Gazelles can be hornless or develop small, not very solidly attached horns. The Goitred Gazelle has indistinct facial markings, a large white rump-patch and, most characteristically, a swelling on the throat of the males during rutting season, resembling a goiter in appearance. The Persian Goitred Gazelle was formerly distributed over the whole of Iran west into Armenia. Other subspecies of Goitred Gazelles live in Central Asia.

Hartmann's Mountain Zebra, *Equus zebra hartmannae* Matschie, 1898. A massively built zebra without pale "shadow stripes", marked by a "gridiron" pattern of rump striping and a small dewlap on the throat. Found in the mountainous areas of western South West Africa and north into western Angola, but only in mountains near the coast. The numbers of this Zebra decline because illegal hunting occurs and there is a ready sale for the skins. Its cousin, the Cape Mountain Zebra's numbers are more critical yet,

there being only 68 specimens known to exist in South African preserves. Mountain Zebras are slow breeders. The gestation period is twelve months. A single foal is dropped usually every second year.

So much for the introduction of our participants: a North African antelope of the tribe Hippotragini (Roan, Oryx, Addax and their cousins), an Asiatic gazelle of the tribe Antilopini (Blackbuck, Impala and gazelles, including the Persian Gazelle) and a South West African zebra. For one thing, they have in common that our Assiniboine Park Zoo has not had them very long yet. Next, all three species are presently represented in pairs only, but another female Goitred Gazelle, still cared for at the Oklahoma City Zoo, is ours already, and additional specimens of all three species may be acquired as favourable opportunities arise. Thirdly, all three species have suitable exhibits to which they have grown accustomed. The animals appear content and relaxed, which gives us hope that they will breed.

The main, unifying characteristic of the three exotic animal species is that they are, each one of them, threatened in their survival in nature. The day may come when Addax, Persian Gazelles and Hartmann's Mountain Zebras perish entirely in their native ranges and the last live specimens are all in zoos and wildlife parks. Protective measures in the home countries of these animals will hopefully prevent this but, to be prepared, it is imperative that Zoological Gardens propagate as many as possible of these beautiful creatures. This is applied conservation, this is one of the noblest goals of a modern Zoo. Even if, through some unforeseen good fortune, the trend reverses itself and national parks or wildlife reservations are established where there are none now, breeding success in Zoos would be truly beneficial; species, now endangered, could then be safely re-introduced from healthy, captive groups. This is exactly what has taken place with the Wisent (European Bison), the Swinhoe's Pheasant, the White-tailed Gnu, the Nene Goose and the Alpine Ibex.

Recognizing our Zoo's fine record of breeding success and cognizant of the fact that it is not good to keep all the golden eggs in one basket, two friends of ours have given us access to the Addax, the Persian Gazelles and the Hartmann's Mountain Zebras. (Such valuable creatures just do not occur on the average dealer's pricelist.) These two co-operative institutions are among the leaders in exotic hoofstock propagation in America: the Catskill Game Farm and the Oklahoma City Zoo. We got the Addax and the Gazelles by way of animal trades. The acquisition of Hartmann's Mountain Zebras was generously financed by a conservation-minded Winnipeg lady, Mrs. Peter D. Curry.

Next time you admire the gracious Addax, the dainty Gazelles and the striking Mountain Zebras, remember their precarious state in the wild. Contemplate our Zoo's noble obligation. Join us in our hope that they will live long and multiply.

Now meet our stars personally:

Hartmann's Mountain Zebra mare, born 24 September, 1962 at Catskill Game Farm,

Hartmann's Mountain Zebra stallion, born 12 August, 1964 at Catskill Game Farm, both arrived in Winnipeg on 11 October, 1966;

Goitred Gazelle doe, born 28 June, 1967 at Oklahoma City Zoo,

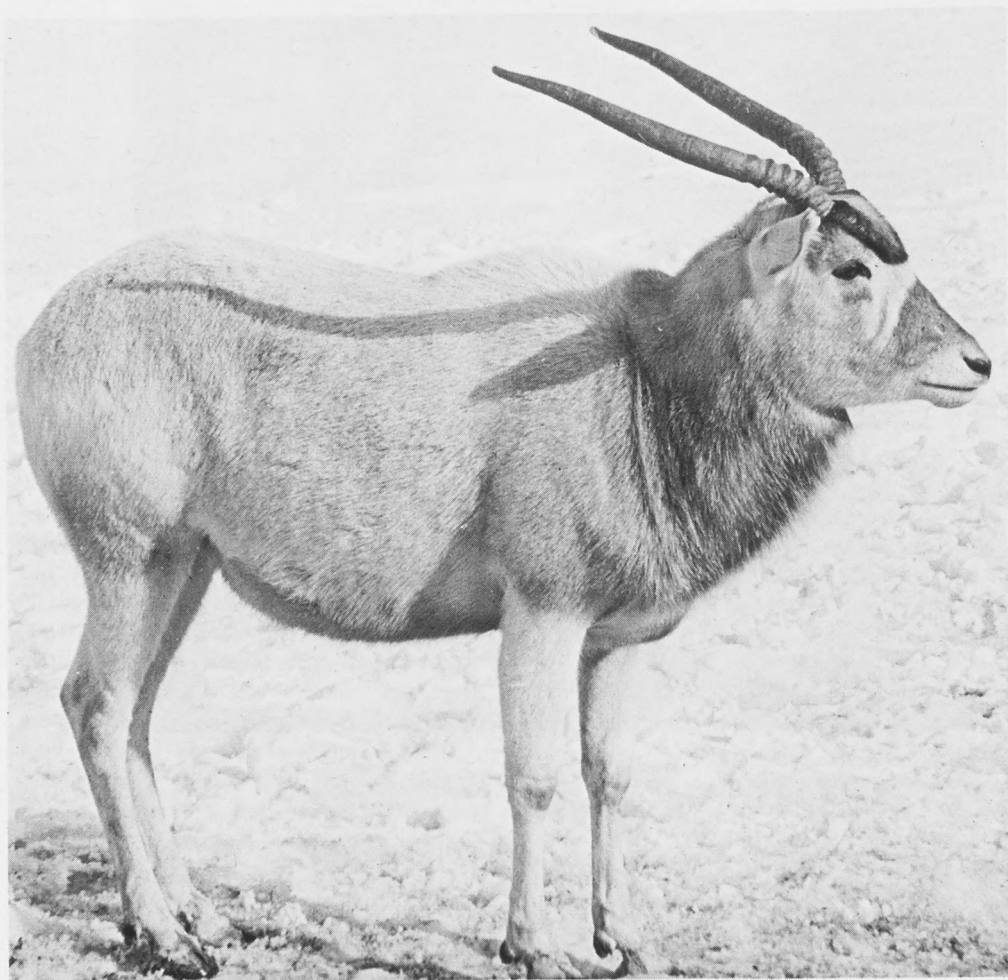
Goitred Gazelle buck, born 13 January, 1968 at Oklahoma City Zoo, both arrived in Winnipeg on 27 March, 1968,

Goitred Gazelle doe, born August, 1968 at Oklahoma City Zoo, expected to arrive here this spring;

Addax bull, born June, 1966 at Catskill Game Farm,

Addax heifer, born October, 1967 at Catskill Game Farm, both arrived in Winnipeg on 4 July, 1968.

Of the three kinds of animals we have dealt with, only one, Hartmann's Mountain Zebra, has so far been bred in Canada, at the Alberta Game Farm. Goitred Gazelles are nowhere displayed in all of Canada except at our Assiniboine Park Zoo.



Gerry Cairns, March 1969

**Addax**



Gerry Cairns, March 1969

Goitred Gazelle

# Vanishing Species (see cover)

Elsewhere in this issue of ZOOLOG, we speak of Addax, Persian Goitred Gazelles and Mrs. Hartmann's Mountain Zebras. A touch of drama was added to the arrival of Goitred Gazelles in regard to their status — endangered or not. Copies from letters will illustrate the story.

"To: —

International Union for the Conservation  
of Nature  
Survival Service Commission  
1110 Morges, Switzerland

April 22, 1968

...

An almost incredible thing happened in our Zoo animal collection here. We acquired a pair of young Persian Goitred Gazelles, *Gazella subgutturosa subgutturosa* and promptly labelled them as a vanishing species, only two and a half days before I received in the mail your correction sheet eliminating the Persian Gazelle from the list of endangered forms. While I was a little disappointed as a Zoo Director, anxious to propagate rare and endangered forms under suitable captive conditions, I was by far more pleased as a conservationist about the positive development of the status of this beautiful Gazelle.

April 29, 1968

...

I am sorry to have to disappoint you about the status of the Persian Goitred Gazelle. Very shortly after striking them off the list, we received evidence that they should, in fact, have remained on. A further sheet for *Gazella subgutturosa subgutturosa* will therefore be issued in the next consignment. Your "vanishing species" label can therefore, sadly, stand.

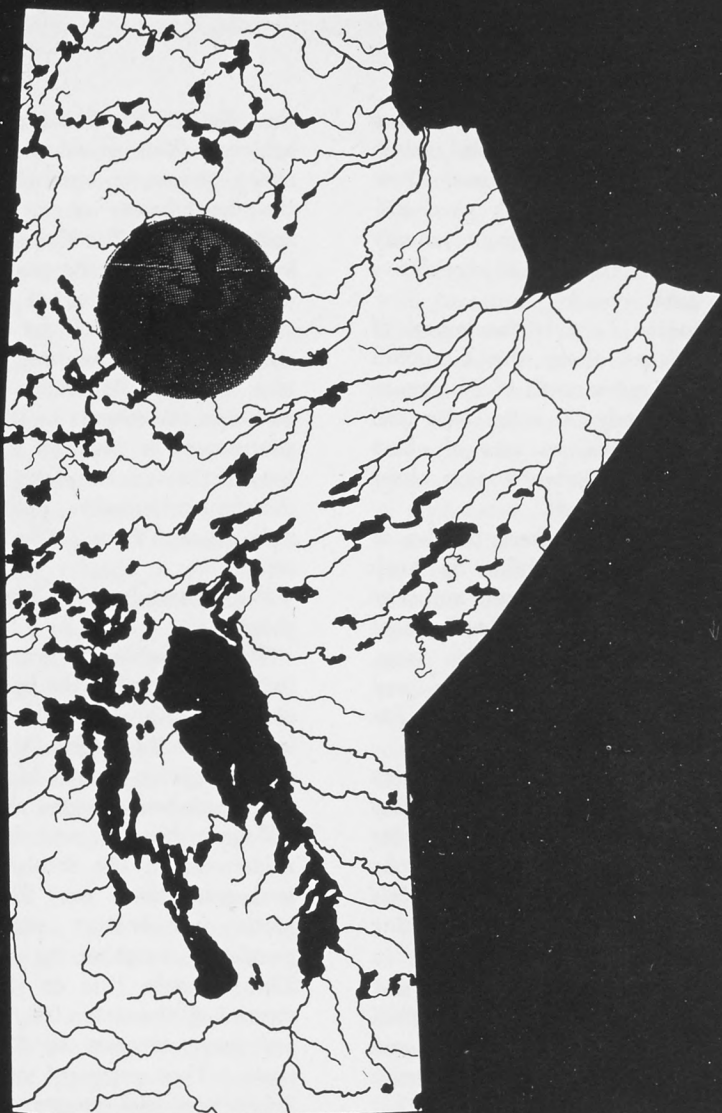
It was certainly good to hear of your acquisition and we wish you every success with your breeding programme. Please keep us informed of progress.

Sincerely,  
Secretary, Survival  
Service Commission  
3rd May, 1968

...

As far as the Persian Goitred Gazelle is concerned, I feel just as you do: that this is a sad turn of events. Our Vanishing Species label will be posted on the enclosure today. Once again with thanks, and warmest wishes for success in your worthwhile endeavors,

Yours very sincerely,  
Dr. Gunter Voss, Director  
Assiniboine Park Zoo"



## **Southern Indian Lake — A Conflict In Resource Utilization**

**H. E. Welch,  
Department of Zoology  
University of Manitoba.**

Three months ago Southern Indian Lake was virtually unknown whereas it is now perhaps the best known lake in Manitoba. Its new eminence stems from conflicts concerning its future role in the Manitoban economy. Should its waters be raised 35 feet and diverted to supplement the flow for hydro-electrical generating stations along the Nelson? Would it be better to divert the lake at another point, to have a smaller rise in level, or not to divert water? These actions would avoid both the displacement

of a prosperous Indian community and a wasteland of floating debris, and retain the lake as a recreational resource. These alternatives and many others were discussed at two public hearings in January and will be the subject of legislative decision in 1969.

Southern Indian Lake is the largest of a series of lakes along the Churchill River. It lies 50 miles north of Thompson and is approximately 90 miles long and 14 miles wide. It has an area of about 850 square miles and an elevation above sea level of 835-840 feet.

Until recently this northern portion of the province was of little value. So much so that the government did not authorize funds for fire fighting. The development of the Nelson River hydro-electric dams, the nickel belt City of Thompson, and the forest resource industry at The Pas have changed this.

The elevation of these northern lakes and rivers and their fall to Hudson Bay lowlands provides enormous potential for hydro electricity generation. Manitoba Hydro surveyed the area in the 1950's and the huge Kettle Rapids generating station is now under construction.

The Nelson River flow fluctuates, and the diversion of water from the Churchill River would ensure a constant flow and maximum utilization of the expensive hydro-electrical generating stations.

After detailed engineering studies Manitoba Hydro decided that the Churchill River would best be diverted by damming the outlet of Southern Indian Lake at Missi Falls, raising the water level 35 feet, and diverting the flow through a man-made channel in the southern part of the lake. The water would then flow south through the Rat River to the Burntwood River, and thus to Split Lake and the Nelson River. Dams would be built to control flow, and flooding of land. The dam at Missi Falls would allow a much reduced flow down the Churchill River.

'Hydro' engineers argue that the above scheme is the most economical of several alternatives. The flow of the Churchill joined with the Nelson would permit the full 1.2 million kilowatt potential of

the Kettle Rapids installation to be achieved. This would assure a supply of cheap power to meet increasing needs, the development of an electro-chemical industry in the Flin Flon-The Pas-Thompson triangle, and the possibility of power export.

The magnitude of the scheme and the enormous economic benefit to the province led the Manitoba government to authorize the scheme in 1966. The Federal government is involved in financing the construction of the long distance direct current transmission lines over the 565 mile distance from Kettle Rapids to Winnipeg.

With these benefits, how could anyone object?

The answer lies principally in Southern Indian Lake. It has the beauty and dignity of the North. It is the last large lake in northern Manitoba. At present, it is a maze of spruce-covered islands, open water areas, rock-bound rugged shorelines, beautiful sandy beaches, and is surrounded by wilderness. At the Southern Indian Lake settlement there are 505 Indians and Metis and another settlement of 100 people at neighbouring Granville Lake. These people live on the natural resources of the area, fur, game, and fish, and have incomes of \$2,000-\$4,000 per capita. They represent one of the most industrious and prosperous Indian communities in northern Manitoba.

The rise of 35 feet of water level in Southern Indian Lake will flood its shores and settlements. The lake area and adjoining waters will increase from 850 to 2,000 sq. miles. It will be the second largest lake in Manitoba and among the largest reservoirs in surface area in North America. It will be larger than the high Aswan Dam reservoir in Egypt.

The flooding will obviously require resettlement of the people. "Resettlement" stirs one's conscience. Has the majority a right to manipulate the minority? This philosophical question constantly faces our modern age. Given the acceptance of "resettlement", can we completely "resettle" people? Can financial compensation pay for the complete change in the way of life that these people would

require? Can "resettlement" be managed so that people retain their dignity and well being? Our previous Manitoban efforts are not reassuring. These questions trouble thoughtful citizens. Fortunately, the government has appointed Counsel for the Indian community.

Flooding will mean almost immediate destruction of the wildlife and their habitat in the vicinity of the lake and long term changes in the fishery; two vital facts to the economy of the people. Nor does doubled lake area mean doubled fish production. The flooded shores will cause biological changes of greater significance than any change in area. Evidence from elsewhere suggests that the catch will rise with the influx of nutrients, but the kinds of fish in the catch will change. These changes will take time, for the pace of biological growth is slower in the North than in the South. Whitefish at Southern Indian Lake are 11-12 years old before they enter the commercial catch whereas in the South, they are 6-7 years old.

Southern Indian Lake is in the area of permafrost. Flooding will bring melting of this permafrost at the rate of a foot or so a year. Areas of soil subsidence will occur. The water will be filled with sediment and trees float free in a quagmire of floating debris. Larger areas of open water will permit the generation of waves and further destruction. Fishing will become dangerous and probably economically unfeasible.

The recreational potential of the lake and surroundings will disappear with rising water levels. Thompson, a city of more than 15,000 people and 50 miles distance, will lose a recreational opportunity. A more enlightened attitude toward future recreational possibilities existed in a similar instance in 1914 when the regulation levels for the Winnipeg River system were restricted for hydro-electrical development. As a consequence Winnipeg enjoys Whiteshell and Kenora, two of the finest recreational areas in Canada.

Downstream from the lake the decreased water flow will bring changes important to the economy of Churchill. Freshwater could become scarce. Canada

geese, sturgeon, capelin, and beluga populations along the river and at its mouth will change. The role of the Churchill River in keeping tidal sediment from the area is unknown.

Changed flow in the Burntwood River will necessitate changes and could well cover potential mineral deposits of value.

The chief concern of the objectors centres on the fact that the alternative diversion schemes were assessed only in terms of one criterion — the economy of electrical generation. This single resource approach is antiquated. The U.S.A. and advanced Scandinavian and European countries practise multiple use of resources. In multiple resource utilization no single agency or group has exclusive use but all users must share in proportion to their present and future needs. Planning becomes the key to utilization. The concept recognizes the fact that as the human population rises, needs for industrial raw materials will inevitably conflict with Man's need for identity, space, and recreation, unless these are assessed and their utilization planned.

Undoubtedly a solution will be found to the problem of Southern Indian Lake, but a more rational approach for such problems should be developed for the future. Let us learn from the United States where the Fish and Wildlife Coordination Act was passed to deal with this kind of problem. Perhaps, the Water Courts of Sweden hold more relevance as this country relies, like ours, on natural resources and hydro-electrical generation in a northern environment. A judicial system examines the arguments before decisions are made and compensation awarded. Maybe a re-definition of the Manitoba Hydro Act is needed so that something more than the cost of dams and generators is considered. Even better might be a new Water Act in which sound ecological and multiple use principles are enacted.

Finally, when Southern Indian Lake is forgotten, may its lesson remain that natural resources belong to all the people and if they are to serve and sustain us we must carefully and wisely plan their use. Posterity will be a stern judge!

# Pollution - caused by industry, or you?

The problem of pollution is truly immense when it is considered that pollution, in one form or another, results almost inevitably no matter in what activity man engages.

Industry is frequently made the "whipping boy" when pollution is discussed — yet the critics as often as not are rate-payers who vote against a money by-law for a municipal sewage project which would help reduce the pollution problem in their community.

The reduction of pollution to acceptable levels — or its elimination if possible — is a costly business. No one section of society is responsible. If Canada is to retain quality environment all sections must pay their fair measure — the public, industry and all levels of government.

One province's experience may be of interest: In British Columbia the largest industry is the forest products industry. It produces annually more than \$1,000,000,000 worth of lumber, newsprint, plywood, shingles, pulp, fine paper, particle-board and other products: it employs 77,000 people directly (and thousands more indirectly).

The nature of the forest industry's manufacturing processes is such that unpleasant emissions do occur. In the case of kraft pulp mills, an odour is detectable in the vicinity of the mill and some saltcake escapes. In the case of both pulp mills and sawmills, particulate matter (fly ash) can be a nuisance. Particles of wood escaping into waterways can create a problem for fisheries.

In recent years, however, the industry has installed a variety of equipment to reduce emissions and improve the mill environment.

At the pulp mills the industry has installed black liquor spills, caustic drains, fibre spills, equipment for re-use of contaminated hot water, bark screening equipment, foam breakers, pipelines for dispersion and diffusion of effluent, oxidation towers, chlorine caustic scrubbers, lime kiln scrubbers, dissolving tank scrub-

bers, precipitators, gas scrubbers, multiclones and clarifiers. Each has played its share in reducing emissions, either for re-use within the manufacturing process or for disposal in an area where they will do no harm.

The sawmills (lumber mills) have utilized multiclones to reduce fly ash, clarifiers to eliminate sediment from log barker effluent, hog fuel burners to burn waste more efficiently, bark presses to remove moisture for efficient powerhouse use, power synchronization system to control smoke resulting from steam surges, and a new smoke control recorder.

It is obvious that the B.C. forest industry recognizes the problem posed by pollution and is doing something about it.

What is more, its concern about pollution by and large pre-dates that of both the public and government.

B.C.-based MacMillan Bloedel Limited, Canada's largest manufacturer and exporter of forest products, and some other companies, became aware of the developing problem more than 20 years ago, and back in 1946 began providing funds to the B.C. Research Council specifically for research work on pollution. The research donations have continued over the years.

In contrast, it is a fair statement that broad public attention has become focused on the problem of pollution only within the last five to ten years; and the B.C. government's Pollution Control Board was established only in 1956. (In eastern Canada, recognition that one or more of the Great Lakes are seriously polluted has come only in recent years.)

To date the B.C. forest products industry has made capital expenditures well in excess of \$40,000,000. MacMillan Bloedel estimates that its expenditures alone on pollution control will be in the area of \$17,000,000 to \$18,000,000 by 1970. In addition to expenditures at its mills, it continues its donations to the B.C. Research Council, it contributes to pollution control programs sponsored by industry

organizations (such as the Canadian Pulp and Paper Association), it employs outside consultants, and the company's own Research Centre in Vancouver is engaged in pollution control studies.

Pollution is a complex problem. All too frequently the willingness of an industry to make capital expenditures on controls is not sufficient in itself to provide solutions, because a technological gap exists between desired control levels and what is physically possible; or, more simply, science does not yet have the solution to certain forms of pollution.

One case in point is the odour from sulphate pulp mills, whether they are located in Canada, Sweden, Japan or Mexico.

Largely as a result of research (and the development of the oxidation tower) by B.C. Research Council, the odour from mills has been reduced very substantially. The offending chemicals are so strong, however, that only a few parts per billion are still detectable and offensive — and science has still not been able to tell industry how to remove them. Although, as one study demonstrated, the odours are not harmful from a health standpoint, they still constitute a nuisance.

Specifically, the odour problem arises as follows: Wood chips are cooked in what is called "liquor" (certain chemicals) to dissolve out the lignin and recover the wood fibres. The spent or used liquor is then put into a recovery furnace to recapture the chemicals for use once again in the cooking process. The spent liquor contains sulphur in a reduced form and combustion results in emission of  $H_2S$  in gaseous form, which is mainly responsible for the kraft mill odour.

By oxidizing the liquor prior to combustion, the sulphur is converted from a reduced state to an oxidized state, which very substantially reduces the offensive odour.

In some instances it is not yet technologically possible to measure certain forms of pollution, or their affect on people, animals and their environment, consequently it is impossible to establish standards to which industry could conform.

There is, as well, a limit to the expenditures which industry can make on pollution controls and still remain competitive in world markets. It seems logical that government should make taxation incentives available to encourage industry to continue the fight against pollution. The B.C. government is moving in this direction by exempting pollution control installations — such as settling lagoons — from tax assessments.

British Columbia pulp and paper mills also must take care in discharging waste into the ocean and rivers or harm could be done to the province's important salmon fishery. This calls for clarifiers and settling lagoons to remove solids from water before they are released into rivers or the ocean. These solids, such as bits of bark or wood, consume oxygen in the water when they decay — and dissolved oxygen in the water is necessary for fish survival.

Other sources, or potential sources, of pollution exist in the B.C. community, as well as in other regions of Canada.

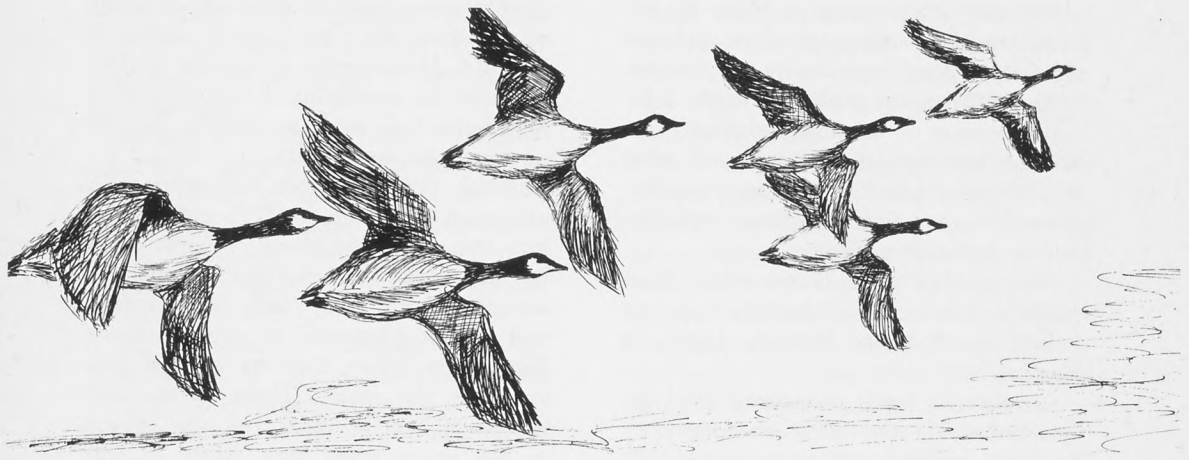
Mine tailings discharged into a lake or stream can destroy natural beauty, perhaps harm fish; automobile exhaust is a potentially harmful pollutant in every major city in every developed country; petroleum refineries and other factories contribute to pollution; so does the individual homeowner who burns garden trash in the backyard, and the community which does not provide for secondary treatment of its sewage.

A huge new deepsea shipping facility is planned at Robert's Bank, south of Vancouver. The site is adjacent to what is probably the largest wintering ground for waterfowl in western Canada, if not in all Canada. Are the two compatible? The conservation experts have raised questions. On the other hand, the port development represents a multi-million dollar industrial facility for B.C.

The fight against pollution has many facets. It can be won only through a concerted effort by the entire Canadian community.

**W. E. Ryan,  
Vancouver, B.C.**

# Dream of Spring



One morning in the downtown city, a man will halt his steps.  
Another man, a child, a woman do the same.  
They lift their eyes up to the skies and keenly listening to the sound they try to see:  
a flock of geese is northward bound.

Those who have time then go out and silently observing  
stroll 'long a lane not far from home and hear the sounds of spring.

In marshes, ditches, roadsides, and in field and bush we see  
a squirrel dashing by, our footsteps scare a rabbit.  
Millions of frogs have intermission while we pass,  
we hear a drumming sound a mile away and realize it is a grouse.  
Running rivulets of water bubble everywhere, the little mound of snow  
beneath the shadow of the spruce will soon be gone.

We halt, we sit there on a sunwarmed rock  
and playing with a withered blade of grass we dream.  
The water splashing once was snow, it will be ocean soon,  
and then some day the rain will fall; this little creek will run again.  
And all along this path from snow to creek to sea and rain,  
a hundred forms of life will rise and live and die.

The blade of grass now crumbled in our hands was once so juicy and so green.  
Now, sitting here we breathe the oxygen that green plants have produced.

And some day we, as grass, must wither; what have we left behind?

When we return to town, get back to work, produce,  
we can look forward to another day or hour  
that we may spend amongst the trees in our parks, in fields around the city,  
or skipping stones on ponds, or fishing in a river, we may again start dreaming  
and see the beauty of a setting sun, feel wind upon our cheeks.

But soon all this will be no more; the fields will sprout apartments;  
and lonely, quiet places

will find their use for recreation with motorboats and hot dog stands.

We won't have time to dream, for if we did, we might be sad.

# Our Zoo and Master Plan

Perhaps it would be timely to tell our Society members something of the organization of the Parks and Protection Division and its planning functions — particularly as these relate to our Zoo.

This division is responsible for Parks, Weed Control, Mosquito Abatement, and Emergency Measures (formerly Civil Defence). The development and operation of the Metro Park's system is our most important function.

At present, the Zoo is one of the six operating branches of the Parks Department. Its 1969 operating budget is \$359,721, second only to our golf course expenditures of \$447,949.

Responsibility for operations (administration and maintenance) of all branches is delegated to the Superintendent of Parks Operations. For development (planning and construction), the responsibility is delegated to the Deputy Director of Parks.

A staff planning group headed by the Deputy Director now does the preliminary planning for all branches. For the Zoo this includes three others: our Zoo Director, Landscape Architect, and Engineer. Other staff members are consulted in specific areas of competence and operating responsibility.

When staff agreement is reached on preliminary design, the plan is then discussed with our Council Committee on Parks and Protection and our Metro Advisory Committee on Zoo Matters (Chairman, Professor Marvin Seale). After agreement here, the final approval of detailed plans and specifications — and capital costs — rests with Council.

Our staff planning group has been busily engaged for some weeks in re-designing certain aspects of the "master plan". Our concern is with servicing deficiencies in the plan — service lines and roads, public refreshment and wash-room locations, staff accommodation, water and earth-fill requirements. The sequence of development may require re-examination because of some deficiencies and because of the scarcity of funds for new construction.

Progress has been excellent and we should be able to invite Marvin Seale's advisory committee to meet with us in March to help us finalize the plan revision.

**Andrew Currie,  
Director,  
Parks and Protection Division**

**Our aim should be to guide natural processes as cautiously as possible in the desired direction rather than to use brute force . . .**

**Dr. Briejer, quoted from  
"Silent Spring" by Rachel Carson**

It may be of interest to Zoolog readers to read a literal copy of a contribution in "Parks; National Conference on State Parks; a Branch of the National Recreation and Park Association", December, 1968 issue.

"MINNESOTA — The Minneapolis-St. Paul Metropolitan Mosquito Control District announced earlier in the year that it would discontinue the use of DDT this year after present supplies are exhausted. The District is shifting to the use of an organic phosphate insecticide called Abate, which is less harmful to warm-blooded animals and fish than DDT and breaks down into harmless matter more rapidly."

# **ASSINIBOINE PARK ZOO**

OPERATED BY  
THE METROPOLITAN CORPORATION OF GREATER WINNIPEG  
PARKS AND PROTECTION DIVISION  
ANDREW CURRIE, DIVISION DIRECTOR      DR. GUNTER VOSS, ZOO DIRECTOR

## **Honour Roll**

THESE MAJOR CONTRIBUTIONS OF THE LAST FIVE YEARS  
ARE GRATEFULLY ACKNOWLEDGED

### **Manitoba Wildlife Branch**

Animal Donations, Native Animals,  
1964, 1965, 1966, 1967, 1968

### **Royal Trust Company**

Animal Donation, Pandas, 1965

### **Carling Breweries Manitoba Ltd.**

Animal Donation, Lions, 1964

### **Bearing Supply & Service Ltd.**

Animal Donation, Gibbons, 1964

### **The Airliner Motor Hotel**

Animal Donation, Ducks, 1964

### **TransAir Limited**

Animal Donation, Birds, 1964

### **Federal Electric Corp. and Govt. of Can.**

Animal Donation, Polar Bear, 1965

### **Zurich Zoo, Switzerland**

Animal Donation, Raccoonlike Dogs, 1965

### **Mr. O. A. Olson, Nigeria**

Animal Donation, Grey Parrot, 1966

### **Anonymous Donor**

Accommodation for Wolverines, 1966

### **Mrs. Peter Curry, Winnipeg**

Animal Donation, Hartmann's Mountain  
Zebras, 1966

### **Odeon-Morton Theatres**

Animal Donation, Lion cub, 1966

### **Wiley Ford Mercury Sales**

Animal and Cage Donation, Cougars,  
1966

### **Eaton's of Canada**

Animal Donation, Birds, 1966

### **Dr. Robert E. Warriner**

Animal Donation, Deer and Monkeys, 1966

### **Department of Indian Affairs and Northern Development, Churchill**

Animal Donation, Caribou, 1967

### **The Sheraton Drake Hotel, Regina**

Animal Donation, Canvasbacks, 1967

### **Mr. A. Botterill, Freelon, Ont.**

Animal Donation, Monal Pheasants, 1968

### **Mr. Fred H. Gauer, Lac du Bonnet**

Accommodation for Lesser Pandas, 1968

### **Canadian Indemnity Company**

Accommodation for Keas, 1968

### **Zoological Society of Manitoba**

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